IMPACT OF MANAGED CARE ON QUALITY, ACCESS & COST

I. EXECUTIVE SUMMARY

In response to demands of employers and government payors, managed care have helped slow rapidly rising health care costs. For example, CalPERS' premiums doubled from 1987 to 1992. However, in 1991, the State had a fiscal crisis and froze its maximum contribution for employee health insurance premiums. CalPERS demanded a freeze and then premium reductions, with threats to freeze membership in each plan if its targets were not met. As a result, from 1992 to 1997, CalPERS premiums were flat. If premiums had continued to double every 5 years, CalPERS coverage would have cost an additional $1.5 billion in 1997 alone, which public employees and taxpayers would have paid. Nationwide, the story is similar, if less dramatic. In 1997, employer-sponsored premiums grew by 0.5%, down from 11.5% in 1991[1] FFS rates increased by 1.2%, PPOs by 0.6%, POS by 1.2%, and HMO rates declined by 0.4%.

In terms of quality, Professors Robert Miller and Harold Luft of UCSF concluded from an extensive literature review that overall quality is about equal in traditional fee-for-service care (FFS) and managed care. According to Miller and Luft, quality under managed care is better, the same or worse than care under FFS, depending on the Health Maintenance Organization (HMO) and the illness. Managed care and FFS both have faults, but neither is a monolith with one consistent level of quality. Managed care and FFS consist of many individual organizations that frequently use the same physicians.

Access is an issue with many facets. For instance, HMOs have generally improved financial access because members pay only modest copayments compared to FFS deductibles and large copayments. On the other hand, HMOs have narrowed choice of providers because of selective provider networks. HMOs offer contracting physicians access to patients in exchange for lower prices and compliance with utilization management. These limitations in provider choice are controversial but are the flip side of cost containment. As a result of cost containment, managed care likely prevented more people from becoming uninsured.

A. Summary of FFS

Under FFS, people have free choice of providers, doctors make decisions uninfluenced by cost, and patients have wide access to specialists, tests and procedures. Yet, as a result, FFS creates incentives to over-provide care, increasing costs. Many patients undergo procedures that are unnecessary or at hospitals performing them in low volumes[2] For example, studies by RAND show that up to 30% of certain cardiac procedures were not in the patient's best interest, even without consideration of costs.

In addition, there are wide practice variations among different communities of the U.S., with no scientific justification. For example, the Medicare beneficiaries in Palm Springs undergo radical

[1] *Health Benefits in 1997*, KPMG Peat Marwick LLP, October 1996, Tysons Corner, VA.
[2] Wennberg JE, Cooper MM (Editor), Bubolz TA, Fisher ES, Gittelsohn AM, Goodman DC, Mohr JE, Posage JF, Sharp SM, Skinner J, Stukel TA, *The Dartmouth Atlas of Health Care in the United States*, The Center for the Evaluative Clinical Sciences, Dartmouth Medical School, American Hospital Publishing, 1996, Hanover, NH.

prostatectomy nearly four times as frequently as Stockton beneficiaries. Some of this variation remains in managed care but is greatly reduced. In addition, the U.S. uses intensive care units at 5 to 10 times the rates of other developed countries (George Washington University), and per capita health care costs are almost double (World Bank); however, our health status is no better.

Moreover, FFS providers and plans are not completely accountable for members' health, nor do most FFS plans pay for preventive care. New treatments are often introduced without scientific evaluation. Care is fragmented, with no relationship between different clinicians, and paperwork is burdensome for members. According to Leape, 2.5% of hospitalized patients suffered injuries caused by errors in New York hospitals. Similarly, autopsies show 35 to 40% rates of missed diagnoses.[3] Extrapolating from New York to the US as a whole, Leape calculates that approximately 180,000 people die each year as a result of medically induced injury and negligence in hospitals. In 1967, the Surgeon General described U.S. health care as "low quality, fragmented and impersonal," and in 1969, President Richard Nixon discussed a "massive crisis" in medicine needing a "revolutionary change."[4] In 1970, when less than 10% of Americans belonged to HMOs, *The New York Times* ran a series on the serious failings of our doctors and hospitals.

B. Summary of Managed Care Issues

In managed care, HMOs have the financial responsibility, flexibility and incentive to improve quality and reduce costs.[5] As a result, quality measurement and accreditation programs have been developed that did not exist under FFS. In addition, HMOs excel at preventive care and early diagnosis. HMOs have the flexibility to introduce innovative programs, such as fall prevention to prevent hip fractures.

On the other hand, care for the chronically ill is a concern under managed care. Insurers have sought to avoid enrolling sick and high-risk members, yet had no impact on health care delivery. On the other hand, HMOs could selectively contract with less qualified specialists or restrict specialist referrals to discourage chronically ill patients from joining their plan. This behavior could potentially hurt the quality of care; however, there is no systematic evidence of it.

Another issue may be shorter maternity stays. Although percentages were small, babies with one-day stays had more readmissions. Perhaps these readmissions could be reduced with home nurse visits or by extending stays for high-risk babies, such as first born, those whose mothers were under 18 years old, or those whose mothers' membranes prematurely ruptured. New research is emerging that will help resolve this problem.

The Pacific Business Group on Health's (PBGH) HMO members were less satisfied than FFS members with their physicians and more satisfied with financial aspects of their health plans. Yet, PBGH's Point-of-Service (POS) members were less satisfied than either HMO or FFS members,

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[3] Simmons HE, "The Nation's Least Understood Healthcare Problem – The Quality of Medical Care," *Generations*, Volume XX, Number 2, Summer 1996, pp. 57-60.
[4] Millenson ML, "Beyond the Managed Care Backlash: Medicine in the Information Age," Progressive Policy Institute, Health Priorities Project Policy Report Number 1, July, 1997, Washington, DC.
[5] Berwick D, "Part 5: Payment by Capitation and the Quality of Care," *The New England Journal of Medicine*, Volume 3, Number 16, October 17, 1996, pp. 1227-31.

perhaps because POS is new, members have higher expectations or do not understand out-of-network limitations or reimbursements.

Mental health is another problem area, with widespread criticism. One study showed that general medical practitioners were less likely to diagnose depression, counsel depressed patients or prescribe antidepressants. Even studies by the HMO industry's own professional organization, the American Association of Health Plans (AAHP), admit to potential problems in managed mental health.

In managed care, members must seek care within the network of contracting providers. Therefore, when health plans terminate Independent Physician Associations (IPAs) or medical groups, members may lose coverage for their physicians' services mid-year. Similarly, members may lose access when IPAs or medical groups terminate physicians. Unless this termination occurs during an open enrollment, members cannot change health plans to maintain contact with their physicians.

C. Potential Solutions

The literature discusses or suggests the following solutions to quality issues.

Incentive to Under-Provide Care. Legislating specific treatments can limit flexibility and innovation.[6] Therefore, incentives are more appropriate. First, like public disclosure of financial data, sharing outcomes data with consumers can encourage quality. Additional information focused on disease treatment and outcomes would help customers to judge HMO quality. Similarly, the state legislature could require or encourage HMOs to communicate clearly to consumers the type of HMO, coverage, formularies, customer satisfaction and quality measures. Industry groups, as described in Task Force Attachment 3, could standardize the format and content to make the information easily comparable. Second, more employers could base payments to HMOs on quality, as could HMOs with payments to providers. Third, accreditation groups could require a minimum standard of care, with strong penalties for failures. The New Quality Information and Consumer Information Expert Resource Groups (ERGs) are addressing this area.

Chronically Ill. First, purchasers could encourage HMOs to enroll chronically ill patients by adjusting premiums for quality and risk. If premiums are unrelated to health status, insurers will profit from healthy patients and lose money on the chronically ill. The Task Force paper on risk-adjustment discusses this are in more detail. Second, HMOs could share clinical guidelines with their patients and encourage patient self-care. Third, disease-oriented societies could identify best practices, advocate these practices to HMOs, advocate disease-specific measures and educate patients. Fourth, purchasers could reward plans that demonstrate superior care. Lastly, purchasers could pay extra for appropriate specialists to serve as primary care physicians (PCPs) for the chronically ill. The Vulnerable Populations ERG is addressing this area.

Mental Health. General medical practitioners may be less effective than mental health professionals at diagnosing depression, counseling depressed patients and prescribing

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[6] Brennan TA, Berwick DM, *New Rules: Regulation, Markets, and the Quality of American Health Care, Jossey-Bass Publishers*, San Francisco, 1996.

antidepressants. In addition, the popular press argues that mental health plans limit supply inappropriately. Because HMOs rely more heavily than FFS plans on general medical practitioners, HMOs may need to educate PCPs on mental illness and establish guidelines for its diagnosis and treatment. Secondly, HMOs could develop clinical guidelines for mental illnesses. Third, advocates for the mentally ill could identify best practices, advocate these practices to HMOs, advocate measures related to mental health, and educate consumers.

Point of Service (POS). POS plans are HMOs with additional out-of-network coverage for certain services. Because non-network providers have not negotiated discounted rates, and non-network users are more likely to use services, non-network care costs more. As a result, consumers must pay a deductible and a percentage copayment for out-of-network services. Since HMOs have higher satisfaction ratings than POS plans, consumers may need additional education to set realistic expectations and to understand out-of-network restrictions and cost sharing. However, people with high expectations may be more likely to choose POS plans.

Low Volume Hospitals. First, the State's Department of Health Services could restrict the number of hospitals for certain procedures, although such regulation has proved ineffective so far. Similarly, the state as a purchaser could require its beneficiaries to use high-volume hospitals and encourage the federal government to do the same. Second, regulators could more vigilantly balance antitrust and access issues with efficiency and quality. Third, an outside professional body could make recommendations on minimum physician and hospital volumes for certain procedures. Fourth, the State's Office of Statewide Health Planning and Development (OSHPD) could publish risk-adjusted outcomes for complex and risky procedures, such as open-heart surgery. In fact, OSHPD has done so, but results were impaired by limitations in authority to collect data. This information would help consumers and health insurers avoid the danger of using low-volume hospitals for volume-sensitive services. Furthermore, such publication could encourage surgeons to refer complicated cases to the most skilled surgeons.

Physician Network. When HMOs remove Independent Physician Associations (IPAs) or medical groups from the network, some members may lose covered access to their physicians mid-year. To address this problem, the state legislature could pass a law requiring HMOs to pay existing physicians and medical groups until the end of the benefit year unless removed for poor quality. Alternatively, Congress could require an open enrollment so the member could choose a plan with his physician. The Doctor-Patient Relationship ERG is evaluating this area further.

II. IMPACT OF MANAGED CARE ON QUALITY

A. What is Quality?

There are many definitions of health care quality. Some definitions of note include:[7]

American Medical Association (AMA) states that high quality care "consistently contributes to the improvement or maintenance of quality and/or duration of life," with an emphasis on health

[7] Blumenthal D, "Part 1: Quality of Care – What Is It?" *The New England Journal of Medicine*, Volume 335, Number 12, September 19, 1996, pp. 891-4.

promotion, disease prevention, timeliness, informed patients, the scientific basis of medicine, and efficient use of resources.

Institute of Medicine (IOM) defines quality as the "degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."

Donabedian, a leader in health care quality, evaluates quality in terms of structure, process and outcomes. Quality health care depends on the physician-patient relationship.

Palmer, Donabedian's co-author, defines quality as "doing the right thing right."

Laffel and Blumenthal, physician experts on health care quality, stress meeting the expectations of patients and other customers.

Chassin, co-chair of IOM's roundtable on health care quality, explains that underuse is withholding care with greater benefit than risk; overuse is providing care with greater risk than benefit; and misuse is providing the right care badly.[8]

Kaiser Permanente defines quality as "effectiveness in providing clinical care to individual patients; satisfaction of customers – patients, members, payers, physicians, and employees; organizational efficiency at all levels; and the appropriate use of resources to improve the health status of all members."

B. Perceived Problems

Physician Concerns. Some physicians claim that HMOs sacrifice quality to reduce costs.[9] They accuse HMOs of greediness and are concerned about low medical loss ratios (the portion of revenue spent on medical costs).[10] They believe that HMOs reduce access to expensive care so that more people can receive basic care,[11] and that PCPs are barriers to specialists.

Patient Concerns. Patients want doctors to make decisions based on clinical rather than financial criteria. Some believe that HMOs reduce utilization by inappropriately discharging hospital patients early and denying expensive tests.[12] These consumers equate utilization with quality. For instance, same-day mastectomy patients may feel traumatized about emptying drain tubes at home, and new mothers discharged early may feel unequipped to care for their new baby while recovering from childbirth.[13]

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[8] Chassin MR, "Assessing Strategies For Quality Improvement," *Health Affairs*, Volume 16, Number 3, May/June 1997, pp. 151-61.
[9] Blumenthal D, "Part 4: The Origins of the Quality-of-Care Debate," *The New England Journal of Medicine*, Volume 335, Number 15, October 10, 1996, pp. 1146-9.
[10] Council on Ethical and Judicial Affairs, American Medical Association, "Ethical Issues in Managed Care," *JAMA*, Volume 273, Number 4, January 25, 1995, pp. 330-5.
[11] Op Cit, Blumenthal, "Part 1: Quality of Care – What Is It?"
[12] Goldberg R, "What's Happened to the Healing Process?" *Wall Street Journal*, June 18, 1997.
[13] Philip T, "Piecemeal HMO reforms miss doctors' expanded roles," *Sacramento Bee*, May 19, 1997.

Mental Health. The popular press reports that mental health patients are approved for fewer visits in less aggressive settings without regard to quality,[14] and that some patients committed suicides after denied inpatient care.[15] Mental health professionals believe that nonpsychiatric physician gatekeepers lack mental health expertise, and non-clinicians should not manage mental health utilization.[16]

C. Quality Measurements

Until recently, quality assurance in health care focused on corrective actions after mistakes to reduce the likelihood of recurrence. With the growth of HMOs, employers and consumer groups wanted more information to evaluate their purchases. In addition, quality measurements are used to improve quality. As described in Task Force Attachment 1 (Quality Measurements & Accreditation), quality measures exist for processes and outcomes. Some people criticize process measures as not predicting outcomes.[17] For outcomes measurements, some believe that the long time for a process to affect outcomes reduces their accuracy. Furthermore, some believe that differences in patient outcomes may be due to the patient characteristics and not physician performance. To be comparable, outcomes data must be adjusted for differences in severity or patient illness; however, some say existing methods are insufficient.

Accrediting organizations have begun measuring quality to ensure a minimum level of quality, as described in Task Force Attachment 1 (Quality Measurements and Accreditation). Typically, accreditation involves on-site audits and measuring quality.

D. Quality Comparisons between Managed Care and FFS

According to the research, there is no winner between managed care and FFS. In addition, managed care and FFS are not monoliths; each consists of high, low and medium quality organizations. Furthermore, the same physicians often provide care to HMO and FFS patients.

Medical Outcomes

Miller/Luft Studies. According to Professor Robert Miller of UCSF, managed care is better than, the same as, or worse than FFS, depending upon the HMO and the disease.[18] In a forthcoming article in *Health Affairs*, Miller and Luft compiled previous studies comparing HMOs to FFS in peer-reviewed journals published after October 1993, with ending dates of 1985 or later and some attempts to risk-adjust. There were an equal number of positive and negative results for HMOs. However, the data are already out-of-date, and health care has been changing rapidly.

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[14] Boyle PJ, Callahan D, "Managed Care in Mental Health: The Ethical Issues," *Health Affairs*, Volume 14, Number 3, Fall 1995, pp. 7-22.
[15] Op Cit, Consumers Union of U.S., Inc., "How Good Is Your Health Plan? Part One of a Two-part Report."
[16] Durham ML, "Can HMOs Manage The Mental Health Benefit?" *Health Affairs*, Volume 14, Number 3, Fall 1995, pp. 116-23.
[17] Brook R, McGlynn E, Cleary P, "Part 2: Measuring Quality of Care," *The New England Journal of Medicine*, Volume 335, Number 13, September 26, 1996, pp. 966-9.
[18] Managed Care Improvement Task Force, San Francisco meeting, July 11, 1997.

In a previous study, Miller and Luft reviewed data with ending dates of 1980 or later for commercial and Medicare HMOs, and found much the same result.[19] Compared with FFS, HMOs had lower hospital admission rates for 8 studies, and higher for 3. HMOs had 1% to 20% shorter stays and fewer hospital days per enrollee. In 9 of 10 observations, HMOs had the same or more office visits per enrollee, except one study with fewer mental health visits. Yet, HMOs provided an average of 22% fewer procedures, tests and expensive treatments. On the other hand, HMO enrollees consistently received more preventive care and health promotion than FFS enrollees did. The result was roughly comparable quality; 14 of 17 observations showed better or equivalent quality in HMOs; however, two observations showed lower quality in HMOs for mental health problems. Fewer HMO enrollees were satisfied with quality of care and the patient-physician relationship, yet more were satisfied with costs. In addition, results were largely varied because HMOs are each different. Industry-sponsored studies corroborate Miller and Luft's results.[20,21]

Medical Outcomes Study of Chronically Ill Adults. This four-year study compared HMOs and FFS for adults with hypertension, non-insulin-dependent diabetes mellitus, recent acute myocardial infarction, congestive heart failure, and depressive disorder from 1986 to 1990.[22,23] After risk-adjustment, outcomes were the same for HMO and FFS overall, but subgroups showed differences. Elderly HMO patients had worse physical outcomes (54% declined in physical health versus 28% for FFS) yet better mental health outcomes (26% improved versus 13% for FFS). For non-elderly HMO patients, physical health was better. Poor HMO patients (at or below 200% of the poverty line) in poor health did worse than poor FFS patients in poor health (2-point decline in physical health versus 5.4 point improvement). However, non-poor HMO patients had better outcomes than non-poor FFS patients did. In total, 20% switched from an HMO versus 15% from a FFS plan, and switchers and non-switchers had the same health status. Although HMOs may have improved care more recently, this study raises significant issues.

Maternity Stays. One study reviewed all normal vaginal deliveries in 1994 paid by Prudential HMO, POS or FFS,[24] excluding those over 5 days (13,945 mothers: 33% HMO, 38% POS and 29% FFS). HMOs discharged 82% of mothers one day after delivery, compared to 61% of POS mothers and 48% of FFS. By region, western HMOs discharged 93% of mothers after one day, compared to 89% in the south, 83% in north central and 39% in the northeast. Regional differences were similar for FFS. The Northeast was the only region with no significant difference between HMO, POS and FFS. In terms of quality, newborn readmissions within 28 days did not vary significantly with length of stay, plan type, region or mother's age. However, 2% of FFS newborns were readmitted for jaundice, compared to 0.8% of POS and 0.7% of HMO. Among

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[19] Miller RH, Luft HS, "Managed Care Plan Performance Since 1980, A Literature Analysis," JAMA, Volume 372, Number 19, May 18, 1994, pp. 1512-19.
[20] American Association of Health Plans, "Research Highlights: Quality of Care and Health Plans," May 12, 1997.
[21] Meisel J, "Quality of Care in HMOs: A Review of the Literature," Report for the California Association of HMOs, September 1994, Sacramento, CA.
[22] Ware JE, Bayliss MS, Rogers WH, Kosinski M, Tarlov AR, "Differences in 4-Year Health Outcomes for Elderly and Poor, Chronically Ill Patients Treated in HMO and Fee-for-Service Systems: Results From the Medical Outcomes Study," *JAMA*, Volume 276, Number 13, October 2, 1996, pp. 1039-47.
[23] Olmos DR, "Ill Elderly and Poor Fare Worse in HMOs, Study Says," *Los Angeles Times*, October 2, 1996, p. A1.
[24] Gazmararian JA, Koplan JP, "Length-Of-Stay After Delivery: Managed Care Versus Fee-For-Service," *Health Affairs*, Volume 15, Number 4, Winter 1996, pp. 74-80.

women with one-day stays, 0.56% of HMO mothers were readmitted, versus 0.20% of FFS mothers; otherwise, readmission rates were not related to plan type.

In a recent study of Washington State vaginal deliveries from 1991 to 1994, newborns released within 30 hours of birth were 28% more likely to be readmitted within 7 days than newborns released 30 to 78 hours after birth.[25] Similarly, healthy newborns discharged early were 63% more likely to be readmitted than healthy newborns released late, and first born newborns discharged early were 25% more likely to be readmitted than those discharged late. Although not statistically significant, newborns of mothers under 18 years old and of mothers with premature ruptured membranes were more likely to be readmitted when discharged early than late. However, risk adjustment did not include family income, birth weight, first pregnancy or premature birth. In addition, the study did not help identify which subgroups should not be discharged early, or whether outpatient services could improve outcomes.[26] Lastly, readmissions are not necessarily comparisons of health outcomes.

Depression. The Medical Outcomes Study found that mental health specialists detect 78 to 87% of their depressed patients, while general medical providers detect 46 to 51% of their depressed patients.[27,28] In addition to lower detection, general medical practitioners used fewer antidepressants than psychiatrists, as did nonphysician mental health specialists. Psychiatrists prescribed antidepressants for about half their patients with severe depression and one third with mild depression. Minor tranquilizers have not been shown to be effective for depression, yet HMO patients were prescribed more than FFS patients were. In terms of counseling, 80% of mental health specialists' counseled 80% of their depressed patients, while general medical practitioners' patients counseled only one third of theirs. Counseling rates were significantly lower in HMOs than in FFS. Despite lower detection and counseling rates, this study found no difference in overall outcomes between HMO and FFS depressed patients; however, HMO psychiatry patients had significantly worse functional outcomes than FFS psychiatry patients did.

Customer Satisfaction Studies

Pacific Business Group on Health (PBGH) Survey. Among PBGH's members, HMO members were more satisfied than Preferred Provider Organizations (PPO)/FFS members with paperwork, claims processing and copayments/deductible, and slightly more satisfied with benefit coverage.[29] On the other hand, FFS members were more satisfied with physician quality, and slightly more satisfied with time to approve care and time spent on the telephone. POS patients were dissatisfied overall and with claims processing, time to approve care and benefit coverage. POS is

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[25] Liu LL, Clemens CJ, Shay DK, Davis RL, Novack AH, "The Safety of Newborn Early Discharge, The Washington State Experience," *JAMA*, Volume 278, Number 4, July 23/30, 1997, pp. 293-8.

[26] Braveman P, Kessel W, Egerter S, Richmond J, "Commentary, Early Discharge and Evidence-based Practice, Good Science and Good Judgement," *JAMA*, Volume 278, Number 4, July 23/30, 1997, pp. 334-6.

[27] Wells KB, Sturm R, "Care for Depression in a Changing Environment," *Health Affairs*, Volume 14, Number 3, Fall 1995, pp. 78-89.

[28] Wells KG, Hays RD, Burnam MA, Rogers W, Greenfield S, Ware JE, "Detection of Depressive Disorder for Patients Receiving Prepaid or Fee-for-Service Care: Results From the Medical Outcomes Study," *JAMA*, Volume 262, Number 23, December 15, 1989, pp. 3298-3302.

[29] Pacific Business Group on Health, www.healthscope.org/hp/cust_sat/type.htm.

a new product; its members may have unrealistic expectations, higher expectations than HMO members, or may simply be dissatisfied with out-of-network reimbursement methodology.

Switching

Few people switch from HMOs at their employers' annual enrollments, and some change for reasons unrelated to quality, such as moving their residence. PBGH publishes switch rates in Medicare HMOs; however Medicare beneficiaries who switch from a Medicare HMO to FFS may be required to accept a preexisting condition restriction for their MediGap coverage.

California Public Employees' Retirement System (CalPERS). CalPERS reports that only 4% change health plans each year. Members generally change because of dissatisfaction or for reasons unrelated to quality, such as moving or changing employers. Most CalPERS switchers were enrolled in their previous plan for several years; for instance, 50% were enrolled for over 5 years.[30] HMOs lost fewer members than PPOs. PERSCare, the more expensive PPO, lost the most members (27% of switchers); 55% switched to the less expensive PPO (PERSChoice), and 45% to HMOs.

Chronic Illness. RAND found that chronically ill members of five United HealthCare IPA-model HMOs switched health plans less frequently than healthy members did.[31] After 5 years, over 50% of subscribers with one or more disease remained in their initial HMO, compared to 30% of those without chronic disease. In addition, those without chronic disease were enrolled an average of 33.9 months, versus 47.3 months for the chronically ill, 49.2 months for two chronic diseases, and 52.9 months for three or more chronic diseases. Differences persisted after controlling for age, gender, dependent chronic disease and health care utilization. Therefore, chronic disease discouraged switching health plans.

E. Quality Improvement

Quality improvement programs have flourished under managed care, whereas FFS carriers are financial payors, have no direct control over utilization and focus on utilization review and fraud.[32] Because HMOs are responsible for both financial and clinical aspects of health care, quality improvement programs are more feasible. For example, 72% of capitated network physician groups used tools for continuous quality improvement.[33] Groups that were older, more profitable or had more capitation were more likely to use these tools. However, more groups focus on overuse and preventive care compared to underuse and chronic disease care. As HMOs improve

[30] California Public Employees' Retirement System, *1995 Open Enrollment Exit Survey: Final Report for Basic Health Plans*, April 16, 1996, Sacramento, CA.
[31] Peterson E, Van Vorst K, Wickstrom S, Levin R, Kerr EA, Schenker E, Morton SC, McGlynn EA, "The Effect of Chronic Disease on Risk of Disenrollment from Five United Healthcare-Affiliated Health Plans," McGlynn EA Editor, *Exploring Issues in Managed Care: Six Illustrative Case Studies*, RAND, March 1997, pp. 1-54.
[32] Op Cit, Smith WR, Cotter JJ, Rossiter LF, "System Change: Quality Assessment and Improvement for Medicaid Managed Care."
[33] Kerr EA, Mittman BS, Hays RD, Leake B, Brook R, "Quality Assurance in Capitated Physician Groups: Where Is the Emphasis?" *JAMA*, Volume 276, Number 15, October 16, 1996, pp. 1236-9.

quality, new practice patterns spill over to FFS.[34,35] For instance, a physician reimbursed by both FFS and HMO plans will treat all his patients similarly. Furthermore, physicians tend to practice consistently within each community.

Customer Service

The best HMOs stress customer service. Lifeguard Health Care, a nonprofit California HMO, is a customer-focused organization, using concepts based on Ritz Carlton Hotels. Lifeguard management believes that the little person, such as the bellhop, makes the difference to customers. To measure progress, the HMO sets detailed goals for telephone service. Similarly, PacifiCare posts the number of calls waiting, calls being handled and percentage answered within 30 seconds. Goals include 12 seconds to answer calls and a 3% abandonment rate.[36] Health Systems International (now Foundation Health Systems) enrollees can call a toll free telephone number for help choosing a medical group.

Continuity & Coordination of Care

FFS plans are criticized for lack of coordination, duplicative and conflicting treatments and adverse drug interactions. The United Kingdom introduced primary care physicians (PCPs) as gatekeepers, and HMOs brought the concept to the U.S. According to the gatekeeper theory, patients need a single physician to coordinate and champion their care. Therefore, PCPs refer patients for all specialty care and coordinate all treatments. In addition, PCPs prevent duplicative testing and review drugs prescribed by different specialists to ensure that no combination is contraindicated. Further, the PCP can direct the patient to the appropriate specialist for their condition.

Prevention/Health Promotion

FFS carriers rarely have systematic programs to assure high levels of preventive service. On the other hand, high quality HMOs identify high risk members and seek to reduce that risk. For example, PBGH established the California Task Force on Preventive Services (now called the Health Services Advisory Committee).[37] PBGH asked the CEO of each HMO to sign an agreement to: 1) adopt the U.S. Preventive Services Task Force's *Guide to Clinical Preventive Services* for meeting or achieving the U.S. Public Health Service's *Healthy People 2000*; 2) counsel on prevention at least every 3 years; 3) collect specific data; and 4) submit that data to PBGH. Sixteen HMOs and 17 employers signed the agreement. Standard guidelines for preventive care were sent to over 30,000 PCPs in California. Because few plans promoted the counseling guidelines, PBGH employers adopted model benefits incorporating the guidelines. Task Force Attachment 1 describes the Health Plan Employer Data and Information Set (HEDIS),

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[34] Welch WP, "HMO Market Share and Its Effect on Local Medicare Costs," *HMOs and the Elderly*, Edited by Luft HS, Ann Arbor, MI, 1994.

[35] Baker LC, "HMOs and Fee-for-Service Health Care Expenditures: Evidence from Medicare," Manuscript, Stanford University, August 1995.

[36] Op Cit, Consumers Union of U.S., Inc., "How Good Is Your Health Plan? Part One of a Two-part Report."

[37] Schauffler HH, Rodriguez T, "Exercising Purchasing Power For Preventive Care," *Health Affairs*, Volume 15, Number 1, Spring 1996, pp. 73-85.

which was developed by the National Committee on Quality Assurance (NCQA). NCQA updates HEDIS periodically to include new quality measures. After HEDIS 2.0 was released, PBGH replaced HMO data with employee surveys and HEDIS data from the California Cooperative HEDIS Reporting Initiative (CCHRI), which is described in Task Force Attachment 1. The task force also developed preventive care guidelines for the elderly and will be developing guidelines for preventive care for pregnant women and other high-risk members.

In another example, HealthNet surveyed its diabetic members and found that too few diabetics were getting annual retinopathy exams. In order to improve, the HMO sent a joint letter with each medical group to remind patients to schedule this exam.

In 1995, Blue Cross of California's HMO began sending preventive health reminders on postcards to all members. In 1996, the HMO sent postcards to over 611,000 members on the following topics (depending on the member's age, sex and disease): childhood immunizations, PAP smear screening, breast self exam and mammography, adult cardiovascular risk screening, senior health screening, secondary screening for diabetes and colorectal cancer screening. For example, the cardiovascular program checks member smoking habits, cholesterol levels and blood pressure. The HMO sent additional follow up materials to groups with low screening rates, which subsequently improved by over 50%.

Physician Report Cards

High quality HMOs evaluate physician performance and use peer pressure to encourage improvement. Similarly, medical groups such as Palo Alto Medical Foundation, Permanente Medical Group and Sharp Healthcare pay physicians at least in part on the basis of quality. Lifeguard creates risk-adjusted report cards for doctors, hospitals and regions based on claims data. The HMO recommends improvements and rewards quality based on report cards. Lifeguard doctors meet in each region to discuss practice variations. According to the plan, peer pressure has strong impact on physicians, and many were unaware that they differed from their peers. Similarly, U.S. Healthcare weighs patient satisfaction in physician compensation.[38]

Early Diagnosis

One basic principle of HMOs is early detection and treatment. For example, Sutter Health in Sacramento's goal is detecting 70% of breast tumors at 2 cm or less in diameter; last year they found 64%.[39] Similarly, a Health Care Financing Administration (HCFA) study found that almost 60% of Medicare HMO patients were diagnosed at the earliest stage of cervical cancer versus 30% of FFS patients.

[38] Op Cit, Enthoven AC, Vorhaus CB, "A Vision of Quality in Health Care Delivery."
[39] Philip T, "Health-care report cards don't measure up, critics say," *Sacramento Bee*, May 20, 1997.

Reduction in Treatment Variation

Kaiser Permanente's utilization management department studies practice variations among their physicians to improve quality.[40] For example, Kaiser considers an emergency room (ER) visit for pediatric asthma as a failure of ambulatory care. To improve, the department studied practice variations and identified best practices. Kaiser now teaches children and parents self-monitoring with peak flow meters and self-medicating within guidelines. As a result, pediatric asthma hospitalization declined from 21.2 to 8.8 per 10,000 children from 1993 to 1996.

Quality and Volume

HMO incentives generally encourage consolidation and efficiency. Ideally, HMOs refer complicated cases to centers of excellence.

Coronary Artery Bypass Graft (CABG) Surgery. In several studies, risk-adjusted, 14-day inpatient mortality for CABG declines as hospital volume increases.[41] For example, risk-adjusted mortality was 2.7% at California hospitals performing at least 500 CABGs per year, versus 4.1% for those performing less than 100.[42] Yet, high volume California hospitals (at least 500 cases per year) performed only 26% of CABGs from 1987 to 1989, and low volume hospitals (less than 100) performed 9%. At the time of this study, 91% of Californians lived within 25 miles of a medium or high volume hospital, 98% within 50 miles and 99.7% within 100 miles.

According to another study, 30 low-volume hospitals in California performed 10% of open-heart surgeries from 1986 to 1991.[43] Yet, 97% of low-volume hospitals are within 20 miles of other hospitals, and only 4% of low-volume patients (0.4% of all patients) are more than 20 extra miles from a high or intermediate volume facility. Nonetheless, 51% of patients at low volume hospitals are FFS Medicare beneficiaries. In comparison, Kaiser Permanente contracts with only high volume facilities, and group and staff HMOs (except one county Medi-Cal HMO) contract with high volume and one larger intermediate volume hospital. IPA HMOs use intermediate and high volume facilities slightly more often than FFS. Similarly, other studies show that outcomes for angioplasty and percutaneous transluminal coronary revascularization (PTCR) improve with higher physician and/or hospital volumes.[44,45]

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[40] Enthoven AC, Vorhaus CB, "A Vision of Quality in Health Care Delivery," *Health Affairs*, Volume 16, Number 3, May/June 1997, pp. 44-57.

[41] Grumbach K, Anderson GM, Luft HS, Roos LL, Brook R, "Regionalization of Cardiac Surgery in the United States and Canada, Geographic Access, Choice, and Outcomes," *JAMA*, Volume 274, Number 16, October 25, 1995, pp. 1282-8.

[42] Chernew M, Hayward R, Scanlon D, "Managed Care And Open-Heart Surgery Facilities In California," *Health Affairs*, Volume 15, Number 1, Spring 1996, pp. 191-201.

[43] Op Cit, Chernew M, Hayward R, Scanlon D, "Managed Care And Open-Heart Surgery Facilities In California."

[44] Jollis JG, Peterson ED, Nelson CL, Stafford JA, DeLong ER, Muhlbaier LH, Mark DB, "Relationship Between Physician and Hospital Coronary Angioplasty Volume and Outcome in Elderly Patients," *Circulation*, Volume 95, Number 11, June 3, 1997, pp. 2485-91.

[45] Ellis SG, Weintraub W, Holmes D, Shaw R, Block PC, King III SB, "Relation of Operator Volume and Experience to Procedural Outcome of Percutaneous Coronary Revascularization at Hospitals With High Interventional Volumes," *Circulation*, Volume 96, Number 11, June 3, 1997, pp. 2479-84.

Centers of Excellence.In order to improve quality of volume-sensitive procedures, some HMOs consolidate specialized care to centers of excellence. For example, Kaiser Permanente sends heart and bone marrow transplant candidates to Stanford and liver transplants to the University of Pittsburgh, the pioneer for this procedure. However, before sending patients to out-of-town centers, HMOs need to consider convenience for patients and families as well as medical expertise and involve the patient in the decision.[46]

Process Improvement

HMOs are generally better organized for improvement than FFS carriers. For instance, Kaiser Permanente selects improvement targets based on impact on health, importance to customers, resources needed, judgement of clinicians, ability to influence outcomes, potential for improvement, and ability to measure results. This year, Kaiser's top priorities are asthma, back pain, breast cancer, cervical cancer, colorectal cancer, coronary artery disease, diabetes, hypertension, major joint conditions and mental health/substance abuse.

For each target, Kaiser sets goals, establishes guidelines and reviews performance. For example, annual sigmoidoscopy rate for colon cancer screening in 50 to 79 year olds increased from 3.9% to 8.9% from 1993 to 1996. In 1994, Kaiser performed 65,000 sigmoidoscopies, removing 42 carcinomas and 684 advanced adenomas. Because approximately 25% of adenomas become cancerous, Kaiser estimates prevention of 170 colon cancers.

Similarly, the cost of total hip replacements has declined dramatically while improving quality.[47] The average length of stay in the U.S. has decreased from 17 days to 6 days from 1983 to 1995, with a best practice of 3 days. Best practices included preoperative patient education, preoperative home visits by social workers, preoperative antibiotics, clinical guidelines, spinal anesthesia, earlier physical therapy, home care, nursing home care, standardized prostheses, and competitive bidding for prostheses.

To continuously improve their process, PacifiCare monitors over and under utilization. PacifiCare tracks medical management reports, provider profiles, complaint rates by service category, denials appealed, denials overturned, member satisfaction, disenrollment rates and disenrollment reasons. For instance, PacifiCare's provider profile compares 55 risk-adjusted measurements on clinical quality, utilization management, member satisfaction and administrative efficiency for each medical group with national benchmarks. PacifiCare identifies outliers to help groups improve quality. Since implementing the profile, the HMO's prenatal care increased by 35% to 90% of pregnant members receiving prenatal care (national benchmark status). Similarly, PacifiCare's cervical cancer screening increased by 17% to national benchmark status of 75% of adult women screened.

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[46] Weston B, Lauria M, "Patient Advocacy in the 1990s," *New England Journal of Medicine*, Volume 334, Number 8, February 22, 1996, pp. 543-4.

[47] Keston VJ, Enthoven AC, "Total Hip Replacement: A Case History of Improving Quality while Reducing Costs," *Health Care Management Review*, Volume ?, Number ?, Fall 1997, forthcoming.

Publishing Physician Outcomes

Although not specific to managed care, publishing physician performance can help improve quality. New York State studied outcomes after starting to publish risk-adjusted mortality for hospitals and surgeons performing coronary artery bypass grafts (CABGs).[48] Risk-adjusted mortality rates for isolated CABG surgery declined from 4.17% to 2.45% from 1989 to 1992, while volume increased by 31%. Risk-adjusted mortality declined at 27 of 30 hospitals, with progressively fewer hospitals exceeding expected mortality rates. Hospitals with above-expected mortality rates improved quality by hiring new surgeons, changing processes, sending riskier patients to more experienced surgeons, and limiting the number of surgeons allowed to operate. Although rumors suggest fewer surgeons will take riskier cases, the authors found no evidence, and, in fact, surgeons performing the riskiest cases had the best outcomes. Logically, it is preferable for the best surgeons to operate on the riskiest patients.

Disease Management

A term invented by the Boston Consulting Group in 1993, disease management is a complete, systematic approach to treating chronic diseases across the spectrum of care locations, from the home to the hospital.[49] The chronically ill are approached as special populations, with clinical guidelines, patient education, physician education, monitoring, prevention and outcomes measurement. Disease management aims to improve the health of chronically ill patients, which ultimately reduces utilization and cost. Compared to FFS, HMOs have more financial incentive and organizational flexibility to pay for disease management.

HealthNet targeted several chronic conditions. Although 16% of their members had these conditions, these members represented 67% of pharmacy costs and 50% of hospital costs. HealthNet surveyed patients for functional status with the Short Form SF-36 (a standard survey) and for time lost from work. For example, they found that few asthmatics used peak flow meters, and many smoked; however, patients of specialists were 3 times as likely to have a peak flow meter. To improve, HealthNet sent peak flow meters and videos explaining their use directly to asthmatics.

PacifiCare is collaborating with its largest medical groups and IPAs on diabetes, congestive heart failure, acute myocardial infarction, depression, women's health and children's health. Their goals are to measure and improve outcomes and customer satisfaction. Together, they are developing screening assessments, outreach programs, outcomes measurements, preventive care and patient education. Comprehensive treatments are based on evidence, best practices and population studies.

For example, PacifiCare and its providers identify diabetics with health screening surveys and pharmacy claims. Baseline measurements for each diabetic include blood glucose control, cholesterol level, annual foot exams, retinal exams, smoking status and functional status. Program

[48] Hannan EL, Kilburn Jr. H, Racz M, Shields E, Chassin MR, "Improving the Outcomes of Coronary Artery Bypass Surgery in New York State,"*JAMA*, Volume 271, Number 10, March 9, 1994, pp. 761-6.
[49] Epstein and Sherwood*Annals of Internal Medicine*,Volume 124, Number 832, 1996.

interventions include member education, counseling, self-management tools (such as wallet-size clinical records), physician education, and clinical guidelines. The program is evaluated by repeating baseline measurements and collecting member satisfaction, which also form the basis for provider report cards. PacifiCare shares best practices and helps its providers continuously improve.

F. Rewarding Quality

Some purchasers are structuring HMO contracts with incentives for quality. HCFA is considering adjusting Medicare HMO payments for quality. For example, HMOs with high HEDIS scores would receive higher premiums. Likewise, during its first year, PBGH asked HMOs to risk 2% of their premiums on measures of customer service, quality and data provision.[50] PBGH negotiates specific dollar amounts and targets based on past performance, the need for improvement and the ability to improve. PBGH asks HMOs with lower performance to improve more dramatically and to risk more.

Capitated medical groups are also well suited to incentive contracts. For example, HealthNet links 1% of capitation payments directly to patient satisfaction, quality care processes and data provision. Similarly, the HMO adjusts hospital payments to service and quality.

III. IMPACT OF MANAGED CARE ON ACCESS

Access to care is a multi-faceted concept. Barriers to access can be structural (e.g., availability, organization, transportation), financial (e.g., insurance coverage, reimbursement rates, public support) or personal (e.g., acceptability, cultural, language, attitudes, education, income).[51]

A. Access to Insurance

Continuity of Coverage

Currently, Federal law requires employers to sell departing employees coverage at 102% of the group rate. The Consolidated Omnibus Budget Reconciliation Act (COBRA) offers members the right to buy coverage at 102% of the group rate for the first 18 to 36 months after leaving a group, depending on the reason for separation, for employers of at least 20 people. The Health Insurance Plan Portability and Accountability Act (HIPPA) further requires the right to convert to an individual policy when leaving any size group after COBRA benefits are exhausted. Kaiser Permanente goes beyond this requirement in allowing lifetime membership.

Access for Small Firms

In California, small groups have more access to health insurance than in many other states.[52] For instance, AB 1672 prohibits denying coverage, canceling coverage or excluding preexisting

[50] Op Cit, Schauffler HH, Rodriguez T, "Exercising Purchasing Power For Preventive Care."
[51] Docteur ER, Colby DC, Gold M, "Shifting the Paradigm: Monitoring Access in Medicare Managed Care," *Health Care Financing Review*, volume 17, Number 4, Summer 1996, pp. 5-21.

conditions for employers of 3 to 50 full-time employees. In addition, premiums for each plan must be between 90% and 110% of the plan's average premiums (adjusted for age and certain other factors) for small firms. More recently, the California legislature extended these rules for groups as small as 2 and certain associations. The year before AB 1672, approximately 47% of firms with 3 to 9 employees offered health insurance. Two years later, approximately 57% of these firms offered insurance.

In addition, this legislation created the Health Insurance Plan of California (HIPC), a purchasing cooperative for small employers, and later for certain associations, as described in Task Force Attachment 2 (Purchasers). According to HIPC administrators, premiums are 10 to 15% below those for comparable, small groups. When HMOs lower costs, more employers can afford health insurance premiums. Among employers participating in the HIPC, 22% did not previously offer health insurance.

Rural Areas

Access is generally a problem in rural areas. Rural HMOs have difficulties because of inadequate populations for risk distribution and too few providers.[53] In addition, rural physicians are overworked, have little competition, charge high prices and have no incentive to join an HMO.[54] To support rural HMOs, the Agency for Health Care Policy and Research (AHCPR) and HCFA have funded demonstration projects. Meanwhile, all 24 of California's rural counties have group or network HMOs in at least part of the county, 12 also have IPA models and 9 also have mixed models. Furthermore, Knox-Keene rules requiring contiguous HMO expansion help to improve access in rural areas.

B. General Access to Care

Robert Wood Johnson Foundation National Access Survey. This study surveyed 3,450 people with private insurance (HMO, PPO or FFS), plus samples reporting access barriers and asthma or ischemic heart disease.[55] HMOs had the lowest office waiting time at the regular source of care: 13% of HMO enrollees reported waiting over 30 minutes, versus 17% of PPO enrollees and 20% of FFS enrollees. In addition, 85% of HMO enrollees reported a medical visit within the past year, versus 80% of FFS enrollees, and HMO members with a visit averaged 4.8 per year, versus 4.0 for FFS. However, 17% of HMO enrollees reported traveling over 30 minutes for that care, versus 12% of PPO enrollees. Additionally, 4.8% of HMO enrollees reported an unmet medical need, versus 3.0% of FFS enrollees. When sorted by income, low-income HMO enrollees (Medicaid and non-Medicaid) with at least one visit averaged 8.6 per year, versus 5.3 for low-income FFS enrollees.

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[52] Buchmueller TC, "Managed Competition In California's Small-Group Insurance Market," *Health Affairs*, Volume 16, Number 2, March/April 1997, pp. 218-28.

[53] Ricketts TC, Slifkin RT, Johnson-Webb KD, "Patterns of Health Maintenance Organization Service Areas in Rural Counties," *Health Care Financing Review*, Volume 17, Number 1, Fall 1995, pp. 99-113.

[54] Serrato C, Brown RS, Bergeron J, "Why Do So Few HMOs Offer Medicare Risk Plans in Rural Areas?" *Health Care Financing Review*, Volume 17, Number 1, Fall 1995, pp. 85-97.

[55] Mark T, Mueller C, "Access To Care In HMOs And Traditional Insurance Plans," *Health Affairs*, Volume 15, Number 4, Winter 1996, pp. 81-7.

Access to Care in Medicare HMOs. In 1996, Mathematica surveyed 3,080 Medicare HMO members, and compared results to the 1994 Medicare Current Beneficiary Study for FFS.[56] Among HMO members, 29% had switched from FFS to an HMO, versus 2.8% from HMO to FFS. Costs were lower for Medicare HMO members: 76% paid no premium, and 83% had prescription benefits, while FFS Medicare recipients usually pay MediGap premiums and have no pharmaceutical coverage. Overall, HMO enrollees were satisfied with their access to care. Yet, 13% of HMO enrollees reported access problems, versus 4% of FFS. HMO enrollees received more preventive care than FFS beneficiaries did. However, vulnerable subpopulations (the nonelderly disabled, the oldest old, those with functional impairments and those in fair, poor or declining health) reported more access problems in HMOs than FFS.

C. Access to Referrals

Consumer Reports believes that some referral processes are designed to make patients give up.[57] Yet, in one example of a good practice, Lifeguard's denials are based on clinical guidelines and are sent with the reason to the PCP, referring physician and patient. Physicians with consistent approval receive "gold cards" for automatic approval and submit approximately one-third of all requests. Similarly, PacifiCare has an Express Referrals program, in which over 70% of PCPs refer to specialists without pre-certification.

D. Access to Physicians

Choice

Many California physicians treat both HMO and FFS patients. For example, California medical practices had an average of 15.0 managed care contracts,[58] and 83% of pacific region physicians had at least one contract.[59] In addition, many HMOs allow family members to choose among different medical groups or IPAs. However, *Consumer Reports* claims that HMOs close busy primary care practices to new enrollees, so availability may be limited. Of course, physicians may have full panels, in which case access would suffer if more patients were enrolled.

For Medi-Cal patients, HMOs have improved access. Many physicians do not participate in FFS Medi-Cal because of low payment rates and administrative burdens.[60] In a study of New York City adults receiving Medicaid through Aid to Families with Dependent Children (AFDC) or State Home Relief, HMOs had higher satisfaction, better access, same utilization and similar cost.[61]

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[56] Nelson L, Brown R, Gold M, Ciemnecki A, Docteur E, "Access To Care In Medicare HMOs, 1996," *Health Affairs*, Volume 16, Number 2, March/April 1997, pp. 148-56.

[57] Consumers Union of U.S, "How Good Is Your Health Plan? Part One of a Two-Part Report," *Consumer Reports*, August 1996.

[58] *Physician Marketplace Statistics 1996*, American Medical Association, Center for Health Policy Research, Chicago, 1996.

[59] *Socioeconomic Characteristics of Medical Practice 1996*, American Medical Association, Center for Health Policy Research, Chicago, 1996.

[60] Scanlon WJ, "Medicaid Managed Care. More competition and Oversight Would Improve California's Expansion Plan," U.S. General Accounting Office, GAO/HEHS-95-87, April 1995.

[61] Sisk JE, Gorman SA, Reisinger AL, Glied SA, DuMouchel WH, Hynes MM, "Evaluation of Medicaid Managed Care: Satisfaction, Access, and Use," *JAMA*, Volume 276, Number 1, July 3, 1996, pp. 50-5.

Medicaid HMO enrollees were more likely than FFS enrollees to have a designated location for care (other than the ER), more than twice as likely to see the same provider at that location, and six times more likely to call that provider instead of going to an emergency room or calling 911.

Distance

In a survey of 6,674 urban Californians, supply of physicians and access were unrelated when adjusted for insurance, income, race and ethnicity.[62] Visit rates, preventive care and having a regular source of care were virtually the same for areas with different per capita physician supply. Financial factors (and not distance) often affect access.

Sufficiency of Knox-Keene Requirements

Currently, California law requires health plans to provide physicians within 15 miles or 30 minutes of members' home or work. To remove a physician during the contract year, HMOs must provide a reason. However, there is no requirement for non-renewals of contracts. When physicians are eliminated from HMO networks, consumers lose covered access to their current physician until their next open enrollment, when they can change to health plans with their own physicians. The same situation may arise when IPAs terminate physicians.

Innovations

In response to customer demand, many HMOs have new products with improved access. For example, Lifeguard commercial members can be referred to any network physician, regardless of his medical group. Similarly, California Advantage, which was started by the California Medical Association, does not restrict referrals to the PCP's medical group and recommends that specialists be PCPs for chronically ill members. In addition, Blue Shield of California's Access+ allows patients to visit specialists in their PCP's group without a referral for a higher copayment.

A rapidly spreading innovation, point of service plans (POS) offer some coverage for care without a referral or outside the network for a deductible and higher cost-sharing. In-network care is similar to an HMO, but care out-of-network or without a referral is similar to FFS or Preferred Provider Organizations (PPOs). Many California HMOs now offer POS plans with increased access to doctors, although employers may not choose to offer these plans.

E. Access to Emergency Rooms (ERs)

Access to emergency rooms is a complex issue because ERs have been overused and abused in the past. The ER is often a poor (and expensive) substitute for an office visit; therefore, HMOs prefer that patients seek care in their doctors' offices. In one strategy, HMOs offer telephone advice from nurses 24 hours a day. Unless the need is urgent, patients and caregivers can call advice nurses first. In addition, legislation has addressed complaints about overly restrictive access to ERs. In California, SB1832 requires HMOs to use a "prudent layperson's" standard. That is, if a prudent lay-person would believe his life or health was in danger, and emergency care was needed, the

[62] Grumbach K, Vranizan K, Bindman AB, "Physician Supply And Access To Care In Urban Communities," *Health Affairs*, Volume 16, Number 1, January/February 1997, pp. 71-86.

insurance must pay, even if subsequent investigation reveals no danger. However, in-network providers are exempted from the prudent layperson requirement. For Medicare and Medicaid HMOs, the federal Balanced Budget Act of 1997 requires the prudent layperson standard. For ERISA plans (those paid by self-insured employers), federal HR815 proposes this standard.

F. Access to Pharmaceuticals

Formularies

HMOs created formularies to lower pharmaceutical costs and maintain affordable drug coverage. Formularies limit drug choice as a bargaining tool with pharmaceutical firms. HMOs direct patients to less expensive drugs when more costly alternatives are no better, offer generics, and make value tradeoffs among similar drugs. For instance, after OBRA 1990 eliminated closed Medicaid formularies, Alabama drug costs increased by 62%.[63] Similarly, formularies have helped Medicare HMOs offer affordable pharmaceutical benefits, while FFS Medicare does not cover outpatient drugs at all. For example, PacifiCare's Secure Horizon's program offers drug benefits worth over $180 million to 600,000 seniors.

In total, between 1990 and 1995, consumers' share of prescription costs fell from 48% to 40%, while private health insurance and Medicaid's portion increased by 8%.[64] Meanwhile, drug costs are increasing faster than general health inflation. Without formularies, drug coverage would become more costly, and fewer Americans could afford it.

Development of formulary. In theory, physicians select formulary drugs with evidence-based medicine. For example, PacifiCare's committee of practicing physicians and pharmacists analyzes scientific literature to develop and review its formulary of over 1600 drugs. However, pharmacy benefit managers owned by pharmaceutical firms may have conflict of interests when comparing their owner's drugs to competitors.

Walser et al analyzed the impact of OBRA 1990, which eliminated closed Medicaid formularies.[65] While 16% of drugs eliminated by Medicaid formularies were judged beneficial, 16% were not, and 40% were questionable or of mixed opinion.

Pharmaceutical manufacturers argue that many drugs offset their high costs by reducing other health care costs, and HMOs should evaluate this tradeoff. Funded by pharmaceutical firms, the Managed Care Outcomes Program followed 13,000 patients with arthritis, asthma, ulcer, hypertension and otitis media for one year at five HMOs with closed formularies and one with an

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[63] Walser BL, Ross-Degnan D, Soumerai SB, "Do Open Formularies Increase Access To Clinically Useful Drugs?" *Health Affairs*, Volume 15, Number 3, Fall 1996, pp. 95-109.

[64] Levit KR, Lazenby HC, Braden BR, Cowan CA, McDonnell PA, Sivarajan L, Stiller JM, Won DK, Donham CS, Long AM, Stewart MW, "National Health Expenditures, 1995," *Health Care Financing Review*, Volume 18, Number 1, Fall 1996, pp. 175-214.

[65] Op Cit, Walser BL, Ross-Degnan D, Soumerai SB, "Do Open Formularies Increase Access To Clinically Useful Drugs?"

open formulary.[66] After risk adjustments, the more limited the formulary, the higher the prescription count, number of office visits, emergency room visits and hospitalizations. For example, patients with mild asthma used 8.4 prescriptions at the HMO with the least restrictive formulary, compared to 26.3 at the HMO with the most restrictive formulary. Likewise, higher use of generic drugs was associated with higher numbers and costs of prescriptions. However, this study ignored drug discounts, which are the major savings for formularies, as well as other factors that affect medical utilization, such as benefit structure, utilization management programs, physician incentives and hospital access. In addition, this study does not apply to many group or staff HMOs, in which practicing physicians control the formulary.

A negative aspect of formularies is the administrative burden to approve non-formulary drugs. For instance, the popular press discusses patients who changed drugs after joining new HMOs because their drugs became non-formulary and suffered side effects from the new drug.[67,68] These patients may need special monitoring while trying new drugs or approval to continue with non-formulary drugs.

As a compromise between cost and access, Lifeguard patients who want unnecessary non-formulary drugs simply pay the difference in price. Lifeguard has 83% formulary compliance; noncompliance costs about 5¢ per member per month. Similarly, over 92% of PacifiCare's prescriptions are from its formulary. For non-formulary drugs, the HMO approves 80% of prior authorization requests by telephone or fax, with over 90% of decisions in less than 10 minutes. Most doctors agree to convert the remaining prescriptions to comparably effective, less expensive medications. As a result, PacifiCare denies less than 1% of prescriptions.

Another issue is who should develop the formulary, the HMO or the medical group. Physicians serving multiple HMOs often juggle multiple formularies. As a result, physicians may spend excessive time seeking approval of non-formulary drugs and monitoring patients switching to formulary drugs. Likewise, pharmacists must call physicians who prescribe non-formulary drugs and recommend formulary drugs. A better model would move the control of formularies to medical groups and IPAs.

Local Pharmacies

A defining feature of HMOs is negotiating with a select network of pharmacies (or their own) for a discount. To compete effectively for these contracts, smaller pharmacies are merging. Networks should help consumers with discounted prices and efficiency.

Mail Service

HMOs invented mail service for maintenance prescriptions, used most frequently by chronically ill patients with long-term prescriptions. Mail service reduces costs by eliminating storefronts and

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[66] Horn SD, Sharkey PD, Tracy DM, Horn CE, James B, Goodwin F, "Intended and Unintended Consequences of HMO Cost-Containment Strategies: Results from the Managed Care Outcomes Project," *The American Journal of Managed Care*, Volume II, Number 3, March 1996, pp. 253-64.
[67] Op Cit, Consumers Union of U.S., Inc., "How Good Is Your Health Plan? Part One of a Two-part Report."
[68] Keating P, "Why You May Be Getting the Wrong Medicine," *Money*, June 1997, pp. 142-57.

spreading work evenly throughout the day. In addition, mail service is more convenient for consumers, who avoid visiting the pharmacy.

G. Access to Specific Types of Health Care

Reproductive Health Services

According to the Alan Guttmacher Institute, HMOs offer superior access to reproductive health services compared to FFS.[69] For example, 99% of HMOs routinely cover annual gynecological exams, versus 88% of POS, 64% of PPOs, and 49% of FFS. Similarly, virtually all HMOs and POS cover routine mammograms, versus 80% of PPOs and FFS. For infertility services, 91% of HMOs, but less than 70% of other plans, cover routine semen analysis. Similarly, 90% of HMOs, 78% of POS, 73% of PPOs and 76% of FFS cover endometrial biopsy. For reversible contraception, 93% of HMOs, 81% of POS, yet only 51% of PPOs and FFS provide coverage. Furthermore, HMOs with prescription coverage typically include oral contraceptives, unlike many FFS plans. Lastly, 75% of HMOs offer some direct access to an obstetrician-gynecologist. Without direct access, confidentiality may be compromised because PCPs are informed about reproductive services. However, PCPs may provide better care when informed about all aspects of their patients' health. Furthermore, FFS confidentiality is even more compromised because the patient's spouse or parent may receive bills for reproductive services through the mail.

Mental Health

Some HMOs have lower copayments or limits on mental health than FFS. For example, CalPERS' HMO covers up to 30 days of mental inpatient care with no charge and up to 20 outpatient visits per year at $20 per visit. Yet, PERSCare (the more generous PPO) requires a 10% copayment for in-network inpatient care and 40% for non-network, and limits inpatient benefits to 30 days per year and $50,000 per lifetime. For outpatient mental health, PERSCare covers up to 30 visits per year with a 20% or $64 per visit copayment, whichever is lower. For substance abuse, the HMO covers inpatient care with no limit or charge, and up to 20 outpatient visits per year at $5 per visit, whereas PERSCare limits substance abuse benefits beyond other mental health care. On the other hand, the press has criticized managed mental health plans for limiting approvals to care, using untrained personnel to approve care and inappropriately restricting treatment to low intensity centers.

IV. IMPACT OF MANAGED CARE ON COST

A. Overall Costs

Because of financial incentives, most FFS hospitals and doctors treat patients if there is the slightest possibility of a benefit. As a result, FFS providers perform many more procedures and expensive tests. Patients choose hospitals based on their physicians' preferences. To attract physicians, hospitals offer convenient locations, quality, technology and amenities. On the other

[69] Gold RB, Richards CL, "Improving the Fit: Reproductive Health Services in Managed Care Settings," The Alain Guttmacher Institute, New York, NY and Washington, DC, 1996.

hand, HMOs balance benefits with risks and prefer less invasive approaches.[70] Hospitals must negotiate with HMOs to be in their network. This negotiation focuses on price, location and quality. As HMO penetration increases, competition lowers prices because of excess capacity and selective contracting. In addition, consumers become accustomed to smaller networks.

B. Cost of Insurance

In response to demands by government and employers, managed care has slowed or stopped health insurance costs from rising. For example, CalPERS premiums doubled from 1987 to 1992. In 1991, the State had a fiscal crisis and froze its maximum contribution for CalPERS premiums. As a result, CalPERS demanded premium reductions, with threats to freeze membership in the health plan or drop it altogether. From 1992 to 1997, CalPERS premiums were flat. If premiums had continued to double, public employees and taxpayers would have paid an additional $1.5 billion in 1997 alone. Nationwide, the story is similar. In 1997, employer-sponsored premiums grew by 0.5%, down from 11.5% in 1991.[71] FFS rates increased by 1.2%, PPOs by 0.6%, POS by 1.2%, and HMO rates declined by 0.4%.

According to an AAHP-commissioned study, utilization review, utilization management and provider discounts reduce staff and group model HMO costs by 30% versus traditional FFS, 23% for IPAs, and 14% for PPOs and POS, as seen in Figure 1.[72]

Figure 1: Cost Savings from Managed Care

	Utilization Reduction versus Traditional FFS	Savings from Provider Discounts	Total Saving versus Traditional FFS
Staff & Group HMOs	22%	8%	30%
IPA HMOs	8%	15%	23%
All Medicare HMOs	13-20%		
POS			13-14%
PPOs			11-14%
Managed FFS (with utilization controls)	4%		

Premiums were increasing rapidly until 1993, as seen in Figure 2. Managed care gained market share, and payors drove hard bargains, and premiums began to decline through 1996. This year, however, premiums are increasing at approximately the general inflation rate. There are several possible reasons for this increase. First, prices may be rising to compensate for inflation. Second, there is an insurance cycle, in which companies price high to compensate for previous losses and after compensating price low to gain market share. Third, quality initiatives are requiring recent

[70] Zwanziger J, Melnick GA, "Can Managed Care Plans Control Health Care Costs?" *Health Affairs*, Volume 15, Number 2, Summer 1996, pp. 185-99.
[71] *Health Benefits in 1997*, KPMG Peat Marwick LLP, October 1996, Tysons Corner, VA.
[72] Health Economics Practice, Barents Group, LLC, *The Effects of Legislation Affecting Managed Care on Health Plan Costs*, Prepared for The American Association of Health Plans, May 5, 1997, Washington, D.C.

investments in information technology. Fourth, early cost reductions may have been easier compared to current programs. Fifth, providers are gaining market power as they consolidate. Sixth, CalPERS has added some benefits to their coverage.

Figure 2. California Weighted Average Health Care Premiums (1992-1998)

	Percent Change in Weighted Average Total Premiums					
Purchaser	**97-98**	**96-97**	**95-96**	**94-95**	**93-94**	**92-93**
CalPERS	3.20%	-0.80%	-4.00%	-1.10%	1.40%	6.10%
CalPERS (HMO only)	2.70%	-1.40%	-5.30%	-0.70%	-0.40%	6.90%
FEHBP (HMO only)	N/A	2.42%	-9.30%	-5.81%	2.91%	6.13%
PBGH[73]	1.00%	0.00%	-4.30%	-9.20%	N/A	N/A
Stanford (N/A)	N/A	-1.82%	-4.99% (b)	-6.16%	5.21%	8.54%
UC	N/A	-1.73% (b)	-2.51% (b)	-9.96%	-6.33%	1.92%
HIPC	3.87%	0.81%	-2.81%	-3.65%	N/A	N/A
HIPC (HMO only)	3.30%	-0.22%	-3.39%	N/A	N/A	N/A

N/A = Information not available.
b = Excludes catastrophic plans.

However, in rural areas, premiums have not declined as quickly as in urban areas. For instance, from 1993 to 1996, HIPC HMO premiums declined by 22% in Los Angeles County, by 14-17% in other urban regions but only by 8% in the rural region. Rural counties have fewer HMOs, and the largest rural plans raised their premiums locally while lowering their premiums elsewhere.

As seen in Figures 3 and 4, California has high numbers of HMO enrollees and, as a result, lower premiums than the U.S. as a whole.

Figure 3: Proportion of Enrollees in HMO/POS, 1996

Purchaser	**HMO/POS Enrollees**	**% of Insured in HMO/POS**	**1995-1996 % Increase for HMO/POS**
California[74]	13,393,100 (a)	42.40%	10.53%
CalPERS	1,002,735	80.79%	0.24%
FEHBP (CA)	493,607	57.41%	3.13%
PBGH (c)	350,000	75.40%	9.28%
Stanford (est.)	24,380	100.00%	0.00%
UC (est.)	285,584	88.19%	-2.30%
HIPC	126,692	98.80%	4.36%
Medicare[75]	3,581,580 (b)	30.00%	16.10%

[73] J Robinson, "Health Care Purchasing and Market Changes in CA," *Health Affairs* (Winter 1995).
[74] Hoechst Marion Roussel, *HMO-PPO Digest*, 1996.
[75] *Health Care Financing Review: Medicare and Medicaid Statistical Supplement* (1996).

a = 1995; b = 1994; c = negotiating alliance only.

Figure 4: Health Care Marketplace Comparison: CA & US Average, 1997

	Weighted Average Premium per Month	**% in HMOs**
Location	**FEHBP HMO only**	**FEHBP**
California	$158.25	57.41%
US average	$166.26	29.35%
Increase from previous year		
California	-2.16%	3.13%
US average	0.13%	0.86%

In addition to direct cost reductions, HMOs, POS and PPOs further spill over to reduce FFS expenditures, according to a Lewin Group study for AAHP.[76,77] For instance, managed care plans saved up to $770 per California family in 1996 versus FFS. Because more employers offer benefits if premiums are lower, Lewin calculated an 3 to 5 million additional Americans insured from managed care cost reductions.

Although HMOs generally reduce costs, mergers may temporarily decrease competition through consolidation. In non-Medicaid HMO mergers from 1985 to 1993, premiums increased by an average of 14% for the first year in the most competitive markets.[78] Premiums returned to their prior level at the end of the year.

C. Cost of Hospitals

Purchasers and health plans have pressured providers to reduce costs. As seen in Figure 5, California's inpatient hospital utilization is significantly lower than in the nation as a whole. While costs have declined substantially, there is still room for further improvement. First, hospital beds have been reduced more slowly than utilization. Second, the most efficient health plans use much fewer hospital days than the average. Simply bringing all plans up to the most efficient would reduce costs considerably. Third, health plans have embarked on a wide range of efforts, from fall prevention to disease management, to improve health status. While these programs will take time to implement, the potential savings are large.

[76] Sheils JF, Haught RA, The Lewin Group, *Managed Care Savings for Employers and Households: Impact on the Uninsured: Follow-Up Report*, Prepared for the American Association of Health Plans, June 18, 1997, Washington, D.C.
[77] Op Cit, Baker LC, "HMOs and Fee-for-Service Health Care Expenditures: Evidence from Medicare."
[78] Feldman R, Wholey D, Christianson J, "Effect of Mergers on Health Maintenance Organization Premiums," *Health Care Financing Review*, Volume 17, Number 3, Spring 1996, pp. 171-89.

Figure 5: Health System Utilization Statistics, California versus US

	CA	% Change per Year Since 1990	US	% Change per Year Since 1990
AHA (1996)[79]				
Short Stay Hospital Days/1000	523	(3.20%)	765	(2.84%)
Hospital Beds/1000	2.39	(2.18%)	3.34	(1.87%)
Medicare (1993)[80]				
Short Stay Hospital Days/1000	1,656	(4.76%)	2,503	(3.50%)
AMA (1995)[81]				
Physicians/100,000	275	0.22%	264	2.35%
Percent Primary Care (a)	38.53%	N/A	38.77%	N/A
Physician Graduates /1000	324 (b)	(8.21%) (c)	605 (b)	(7.16%) (c)
UMGA versus US (1995)[82]				
Adjusted total days/1000 (d)				
Commercial Days/1,000				
Average Medical Group	151	(7.99%)	258.4 (d)	(5.31%)
Most Efficient Medical Group	96	(1.78%)	N/A	N/A
Least Efficient Medical Group	201	(16.22%)	N/A	N/A
Senior Days/1,000				
Average Medical Group	1066	(4.11%)	1577.7	(0.63%) (f)
Most Efficient Medical Group	839	(2.72%)	N/A	N/A
Least Efficient Medical Group	1623	(6.31%)	N/A	N/A
Visits per member per month				
Commercial Visits				
Average Medical Group	3.84	(1.91%)	3.5	1.18%
Most Efficient Medical Group	2.25	7.19%	N/A	N/A
Least Efficient Medical Group	5.56	(3.46%)	N/A	N/A
Senior Visits				
Average Medical Group	8.54	(1.56%)	8.1	4.50%
Most Efficient Medical Group	6.01	4.77%	N/A	N/A
Least Efficient Medical Group	13.60	(2.11%)	N/A	N/A

N/A: Not Available

a = Primary care includes family practice, general practice, internal medicine, obstetrics/ gynecology, and pediatrics.

b = 1990-1995 average.

c = Percent change between 1990-1995 and 1980-1989 averages.

d = Total days include acute, skilled nursing and psychiatric facilities. Days are not adjusted for demographic characteristics, such as age (other than senior versus non-senior), sex or risk.

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[79] American Hospital Association, *1996 AHA Hospital Statistics*

[80] *Health Care Financing Review: Medicare and Medicaid Statistical Supplement* (1992, 1994 and 1995).

[81] American Medical Association, *Physician Characteristics and Distribution in the US* (1996-97).

[82] Hoechst Marion Roussel, *HMO-PPO Digest*, 1996.

e = National data taken from Hoechst Marion Roussel, HMO-PPO Digest (1996). Hospital days include acute hospital days only.
f = Note: The 1995 value represents a 6.20% decrease from 1994.

D. Cost of Other Services

Mental Health

When Utah introduced managed Medicaid, inpatient mental health expenditures declined by 44%, and total mental health by 17%.[83] After incentive payments the first year, Utah saved $2.3 million on inpatient mental health, primarily the result of lower admissions among AFDC recipients. Similarly, Massachusetts estimated 22% savings ($47 million) from managed Medicaid mental health, mostly from inpatient care.[84]

E. Patient Costs

When managed care first expanded, patient costs often declined. In addition to lower premiums, copayments were lower and deductibles were eliminated. Furthermore, coverage expanded to preventive care. This year, however, studies report that small firms are shifting the increasing premiums to their employees.[85] Generally speaking, however, HMOs rely upon provider incentives and low copayments, while FFS relies upon high copayments and deductibles to deter utilization. As a result, HMO patient out-of-pocket costs are substantially lower than FFS.

[8383] Christianson JB, Manning W, Lurie N, Stoner TJ, Gray DZ, Popkin M, Marriott S, "Utah's Prepaid Mental Health Plan: The First Year," *Health Affairs*, Volume 14, Number 3, Fall 1995, pp. 160-72.
[84] Op Cit, Callahan JJ, Shepard DS, Beinecke RH, Larson MJ, Cavanaugh D, "Mental Health/Substance Abuse Treatment In Managed Care: The Massachusetts Medicaid Experience."
[85] Tannenbaum JA, "Health Costs at Small and Midsize Firms Declined," *The Wall Street Journal*, September 11, 1997, page B2.